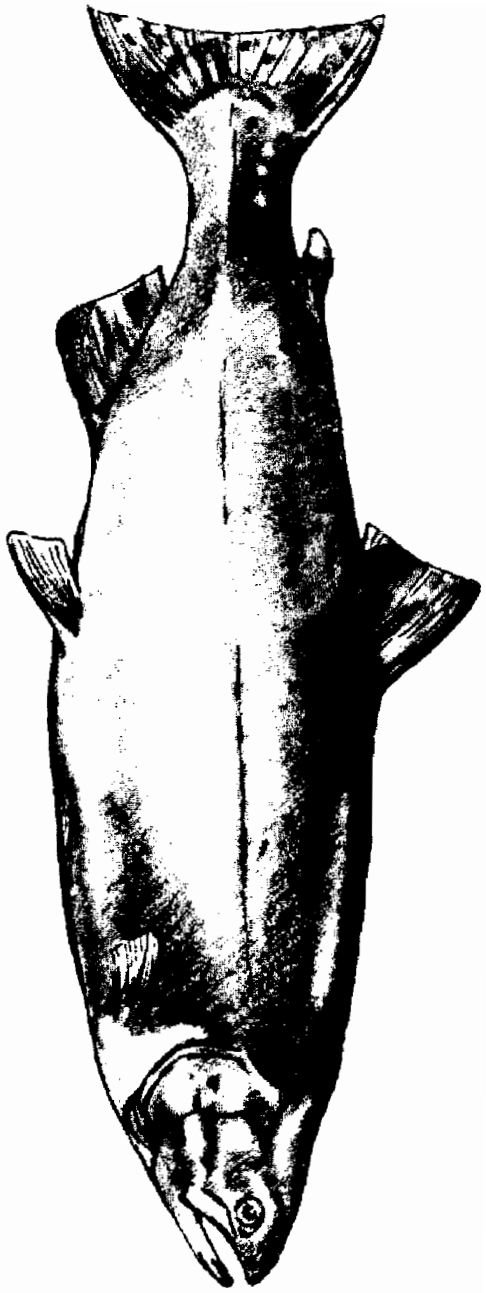


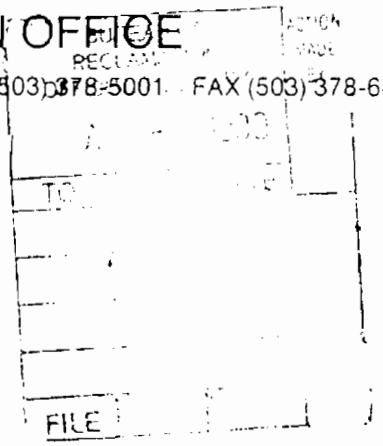
Attachment H—Oregon State Historic Preservation Officer Letter

ORIGINAL

Parks and Recreation Department

STATE HISTORIC PRESERVATION OFFICE

525 TRADE STREET SE, SALEM, OREGON 97310 PHONE (503) 378-5001 FAX (503) 378-6447



August 1, 1990

Lynne MacDonald
Bureau of Reclamation
Federal Bldg. and US Courthouse
Box 043-550 Fort St.
Boise, ID 83724-0043

RE: Savage Rapids Dam
Josephine County

Elisabeth Potter, of our staff, reviewed the materials you sent on the above-referenced project. After review of the material the SHPO office concurs that the dam is not eligible for the National Register of Historic Places. Therefore, we feel your proposed project would have "No Effect" on sites on, or eligible for inclusion on, the National Register of Historic Places. If you have any questions you can contact Dr. Leland Gilsen at 378-5023.

Sincerely,

James Hamrick

James M. Hamrick, Acting
Deputy SHPO

JMH:LG:jn
MACDONAL.LTR

PN 705

MAY 25 1990

Mr. David G. Talbot
State Historic Preservation Officer
State Parks and Recreation
525 Trade Street SE.
Salem OR 97310

Subject: Section 106 Consultation on Savage Rapids Dam -- Josephine County Water Management Improvement Study, Oregon (Historical Cultural Study, Project Investigation)

Dear Mr. Talbot:

The Bureau of Reclamation (Reclamation) is participating with the Grants Pass Irrigation District (GPID) and others in the Josephine County Water Management Improvement Study. One facet of this study is resolution of fish passage problems at Savage Rapids Dam, which is located on the Rogue River at the Jackson/Josephine County line (see enclosed figure 1). Due to inadequate fish ladders and screens, the dam impedes the upstream and downstream migration of anadromous fish, resulting in fish losses.

Plans for three different options have been identified: (1) removal of the dam, (2) replacement of the existing passage facilities at the dam, and (3) no action.

Under option 1, the dam would be removed and the dam site/reservoir area would be returned to its natural state, a free-flowing river. In addition, pumping facilities would be constructed at points along the river to supply water to GPID for continued irrigation operations.

Under option 2, the dam would remain in place, new fish ladders designed to current technical standards would be constructed for each side of the dam, new fish screens would be constructed, and other dam modifications would be performed as necessary to promote safe and efficient fish passage.

Option 3, which would not affect the dam, is unacceptable to the entities involved in the study.

Pursuant to 36 CFR § 800.4, Reclamation requests consultation with your office on the eligibility of the Savage Rapids Dam. We ask that you review the

documentation provided in this letter and concur in Reclamation's determination that the Savage Rapids Dam is not eligible for inclusion in the National Register of Historic Places.

Physical Description of Savage Rapids Dam

The Savage Rapids Dam is located on the Rogue River at river mile 107 in Josephine and Jackson Counties about five miles east of the city of Grants Pass.

Built to divert water for irrigation from the Rogue River, the dam is a combination gravity and multiple-arch, concrete structure. The dam has a structural height of 39 feet, a hydraulic height of 30 feet, and an overflow crest with a length of approximately 465 feet (see enclosed figures 2 & 3). The crest is divided into 16 bays. The first seven at the north (right) end of the dam are of multiple-arch construction with buttresses on 25-foot centers. The rest of the bays are concrete-gravity sections.

Metal stoplogs, installed and removed by a motorized cableway and hoist, control water going over the spillway section. A small, concrete-block structure above the north end of the dam houses the hoist equipment. The stoplogs raise the upstream water surface 11 feet and are in use during the irrigation season.

In the center of the dam at bays 10 and 11 are two river outlets controlled by 16-by-7-foot, hydraulically-operated, radial gates, each with a capacity of 3,000 cfs. The gates are used to dewater the reservoir to permit access to the crest of the spillway while the stoplogs are being installed and removed.

At the north end of the dam is a concrete structure designed to contain pumping equipment. The pumping facilities allow water to be pumped from the Rogue River into four canals at higher elevations, using hydraulically-powered pumps. Two hydraucone turbines operating under a 29-foot head power the pumps. One turbine drives a centrifugal pump which supplies water through a 42-inch pipe within the dam to the South Highline Canal and Savage Lateral on the south side of the Rogue River. The other turbine drives two pumps connected in series which supply water to the Tokay Canal and Evans Creek Lateral on the north side of the Rogue River.

The remaining diversion from the dam is the gravity diversion into the Gravity Canal (also known as the South Canal) at the south (left) end of the dam. Flow is regulated by two four-foot by four-foot, hand-operated, slide gates in a headworks at the upstream face of the dam.

There are fish ladders located at both the north and south sides of the dam to provide for upstream and downstream fish migration. The north fish ladder is a rectangular, concrete structure containing pools 8 feet long and 9 feet wide (see enclosed figure 4). The south fish ladder is a concrete structure approximately 100 feet long and divided into 10 pools. Extending from the bottom of the south ladder to the river are a series of fish resting pools and attraction channels.

Other fishery facilities at the dam include a traveling fish screen structure adjacent to and just upstream from the pump and turbine intakes at the north abutment. The structure includes a trashrack, traveling screens, and a fish bypass system to protect downstream migrants. Four metal sluice gates located under the turbine structure are used to flush sediment deposited in front of the screen structure so that it will not build up to an elevation where it will enter the screen structure.

Alterations to Savage Rapids Dam

Since its completion in 1921 (see enclosed figure 5), the dam has undergone a series of changes which have significantly altered its original appearance. Only the major changes will be described here. As originally constructed, the dam did not include the south fish ladder. This was added in 1934 by the Oregon State Game Commission. Historic photographs taken during construction of the dam show a wooden walkway with railings mounted on top of the spillway section. Photographs dating from the late 1930's show the walkway being removed.

The most substantial alterations to the dam occurred during the 1950's. Investigations conducted showed that the dam was in poor condition and that rehabilitation was urgently needed. Operation of the structure had become difficult and although the dam was actively used by GPID, the deteriorated condition of the original spillway-gate system was dangerous to the lives of operating personnel. In 1953, the rehabilitation of Savage Rapids Dam was authorized by Congress in the Department of the Interior Appropriation Act of 1953. Construction began in March 1953, and was completed in February 1955.

The greatest alteration to the dam involved the removal of the original 16 wooden-faced radial gates that provided spillway control. Due to difficulty in raising and lowering the gates, many of them had become inoperable. All of the gates were taken out and guides were installed in the concrete piers for the metal stoplogs that are now used to control the height of the spillway. The cableway towers at either end of the dam were erected to facilitate removal and placement of the stoplogs. At the same time, 7 of the 17 concrete piers that divide the bays were lowered to provide larger openings for the passage of debris during the non-irrigation season. The center two bays of the dam were removed to allow for the creation of river outlet sections, including the two radial gates. Other improvements included the repair of eroded concrete on the downstream face, the foundation, and the sluiceway. In addition, the river channel upstream and downstream from the dam was excavated to improve flow conditions.

Further changes were undertaken in 1957-58 to provide "fish protective facilities" at the dam. Heavy losses of downstream fish occurred because the pump and turbine intakes were not screened. Funds in the amount of $208,000 were set aside in the fiscal year 1957 Public Works Appropriation Act for Reclamation to complete the needed construction. The existing fish screen structure was added to the dam just upstream from the pump-turbine structure.

Fish passage problems continued to exist at the dam, and in 1974 fish passage improvements were authorized by the Reclamation Development Act of 1974. Pursuant to this, modifications to the south fish ladder were undertaken, as well as replacement of the traveling fish screens.

History of Savage Rapids Dam and the Grants Pass Irrigation District

Although the Rogue River Valley was known to white men as early as the 1820's, settlement in the area took off following the discovery of gold near the present city of Grants Pass in 1851. Large numbers of miners flocked to the area to seek their fortunes. Along with the miners came farmers who attempted to raise feed for livestock in the hot, dry summers. The average annual rainfall of 29 inches made irrigation essential for many crops. Early efforts to irrigate fields were limited to individual efforts and consisted mainly of simple stream diversions. As the population continued to grow, the available water supplies were appropriated and further development was beyond the means of individual resources. The need for an organized effort to distribute water increased, especially following the completion of a railroad line in the late 1880's. This event created possibilities for commercial fruit-growing and stock-raising. However, another 30 years passed before an effort to organize water users in the Rogue River Valley was successful. An attempt in the early 1900's failed when the Gold Drift or Ament Dam, completed in 1904, was damaged beyond repair in a 1912 flood.

By 1915 there was a great deal of interest in an organized irrigation district. An organizational meeting was held on December 9, 1916, and on January 17, 1917, an election resulted in the formation of GPID as a municipal corporation under the laws of the State of Oregon. For the first time, water users in the area would be provided with a reliable and consistent source of irrigation water.

Initially, plans had called for extending the Gravity Canal of the Gold Hill Irrigation District, which was located further upstream on the Rogue River and was being organized at the same time. This proved to be too costly, so the plan was abandoned and the present GPID system was designed.

As laid out, GPID included lands along both sides of the Rogue River from the town of Rogue River to below the city of Grants Pass, as well as along Evans Creek. Land within the city limits of Grants Pass was also within GPID. Water for irrigation would be diverted at the Savage Rapids Dam and distributed through a series of canals and laterals. Pumping units installed at the dam would pump some of the water to canals located on higher ground.

Contracts for construction of the project, which was financed through a series of bond issues, were awarded on June 28, 1920. Work on the dam itself began early in July. The Shattuck Construction Company of Los Angeles and San Francisco was retained to undertake the construction, and Jerome H. Fertig held the position of project engineer.

Dedication ceremonies for the dam were held on November 5, 1921, amid great celebration. An article written by Jerome Fertig describing the features of

the dam appeared that day in the Grants Pass Daily Courier. Fertig described the unique features of the dam as follows:

> "The design is peculiar to itself in the use of a multiple arch type with down stream apron of odd shape necessitated by the gate mechanism. The gate control is new in its method of operation, and means of control, [sic] require an entirely new design in hydraulic machinery. The power and pumping machinery is a new design, this being the first installation of the new hydraucone turbine and direct connected pumping equipment. The dam is provided with the latest type fish ladder extending below the powerhouse to the reservoir above."

Upon completion of the entire project in 1922, GPID included 19,532 acres of which 12,815 were identified as irrigable. The anticipated benefits of the project were never fully realized, however. During the depression, irrigation of many areas within the district was found to be economically unfeasible due to the high cost of pumping and extensive water loss through seepage. In addition, the service area of GPID gradually changed from being predominantly agricultural to urban/suburban. Land taken up by roads has also reduced the acreage served by GPID. As a result of all of this, the amount of land under assessment has gradually decreased. As of March 1990, GPID was serving over 7,750 acres. This still includes lands along both sides of the Rogue River and within the city of Grants Pass.

Today, in addition to the Savage Rapids Dam, GPID's distribution system consists of about 60 miles of major trunk canals, 100 miles of minor canals and laterals, several stream crossings and control structures, four relift pumping plants, and five measuring devices. These ancillary features will not be affected by the proposed options and so their history and integrity are not addressed herein.

The information contained in this letter was obtained from numerous sources. Records consulted were located at GPID's office, the Grants Pass Public Library, the Josephine County Historical Society, the Josephine County Planning Office, the Jackson County Planning Office, and Reclamation's Pacific Northwest Regional Office. The research was conducted and this letter report prepared by Christine Pfaff, an Architectural Historian from Reclamation's Denver Office.

Eligibility of Savage Rapids Dam

It is the opinion of Reclamation that Savage Rapids Dam is not eligible for the National Register of Historic Places. Although the dam is significant locally as the sole diversion point of water supply throughout GPID, the structure no longer retains sufficient original physical characteristics to convey its historic appearance. Integrity of design, materials, and workmanship have been substantially compromised. Major features of the dam that contributed to significance under Criterion C have been altered, removed, or replaced. This includes the original 16 wooden-faced radial gates, the concrete piers, the center two bays, and the wooden walkway.

Savage Rapids Dam was identified during a cultural resource survey of Josephine County conducted by Kay Atwood in 1984. The dam was rated as having secondary importance.

When an alternative is selected following the completion of the subject study, additional cultural resource work will probably be required. Either the rehabilitation of the fish ladders or the removal of the dam and installation of new pumping plants along the river could involve earth disturbance activities that would require an archeological survey. It is also possible that other historic resources could be impacted. All necessary surveys and site evaluation investigations will be conducted once impact areas are defined. At that time, additional consultations as required by 36 CFR § 800 will be conducted.

If you have any questions about the evaluation of the Savage Rapids Dam, please contact Christine Pfaff at (303) 236-8742. Please contact Lynne MacDonald, Regional Archeologist, at (208) 334-9478 if you have any questions regarding further investigative activities. Thank you for your assistance.

Sincerely,

KENNETH R. BEDDE

Regional Director

Enclosures

bc: Assistant Commissioner - Resources Management
Attention: D-5530 (Pfaff), D-5910 (Jensen)
Regional Supervisor Water, Power and Lands
Attention: PN 416
Bruce G. Buckmaster
Grants Pass Irrigation District
200 Fruitdale Drive
Grants Pass OR 97526
(w/enclosure to each)

RHamilton:jlf:5/23/90:SSSHPO.DOC